

ABSTRACT OF THE DISCLOSURE

5 A system and method for managing utilization in a
unidirectional stack. An application programming interface
(API) is provided for facilitating user interaction with a
stack management system associated with a computing
environment such as an architectural simulator. The
unidirectional stack is initialized via the API with respect
to a fixed stack marker boundary, a stack base and a stack
pointer. A high water mark is maintained for tracking the
10 stack pointer's farthest location from the stack base during
the execution of a program. When a program instruction is
operable to access a stack location, one or more validity
rules are applied to determine if the access operation is
permissible. Where the program instruction is operable to
15 modify the stack pointer, another set of validity rules are
applied to determine if the stack pointer operation is
permissible. User warning and optional return of program
control are available when an invalid access operation or
stack pointer operation is attempted.